U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

EM FY 2017 Budget Rollout Presentation

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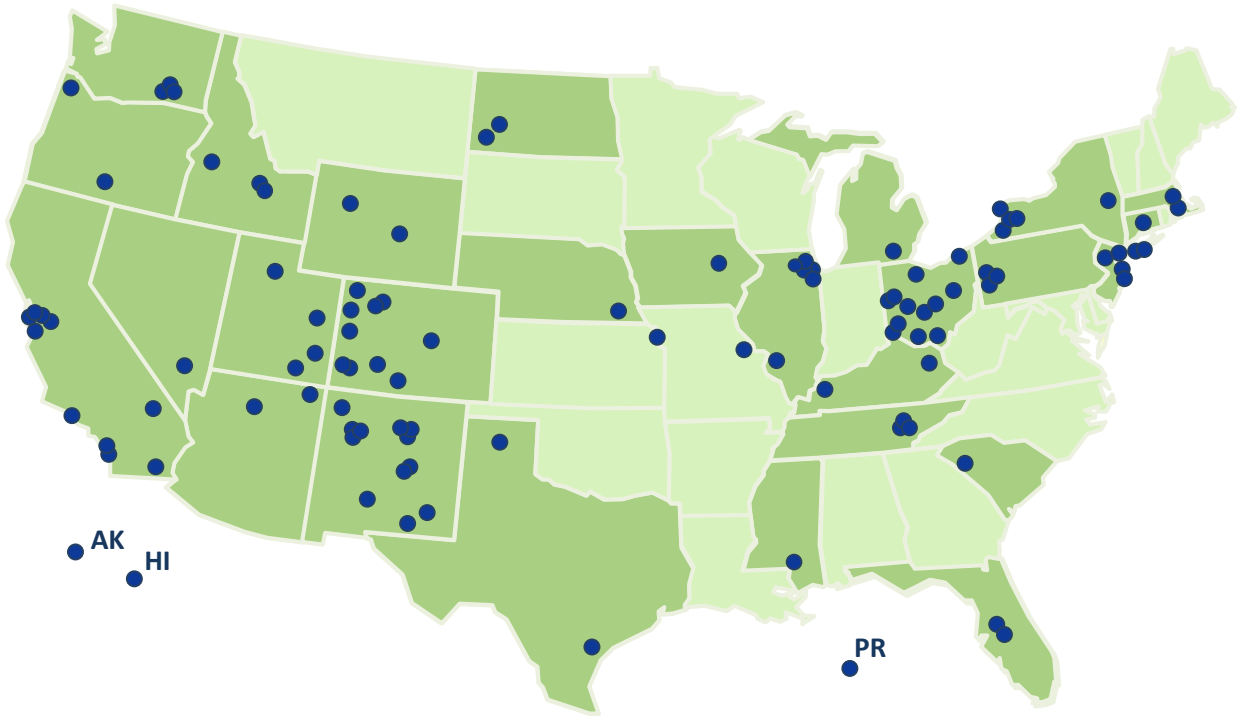
Environmental Cleanup–a Key DOE Strategic Goal

- The mission of the Department of Energy's (DOE) Office of Environmental Management (EM) is to complete the safe cleanup of the environment from decades of nuclear weapons development and government-sponsored nuclear energy research.
- EM supports DOE's Strategic Plan to position the Department to meet the challenges of the 21st century and the nation's Manhattan Project and Cold War legacy responsibilities.

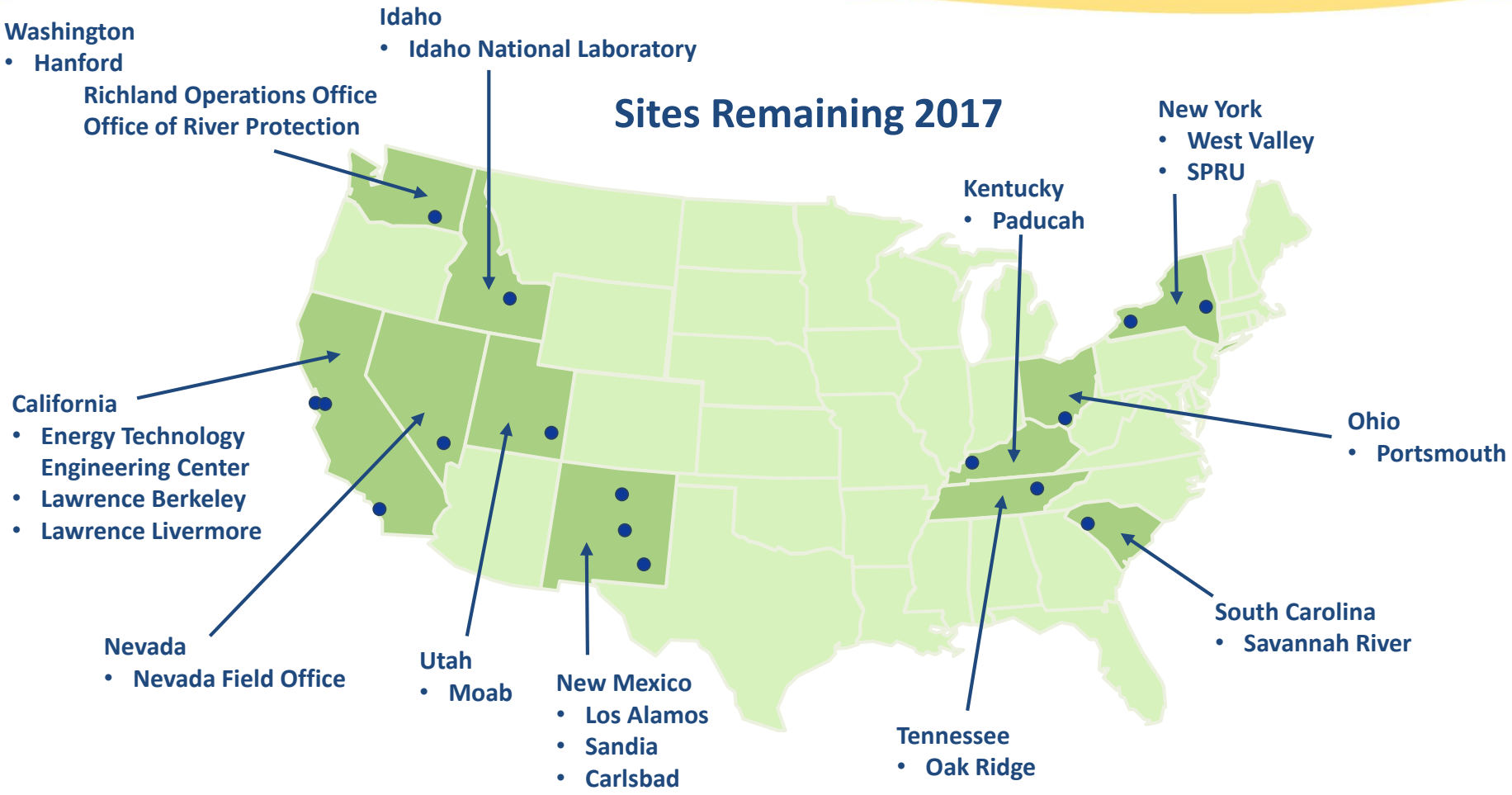
Making Cleanup Progress

EM Historical Sites



- **EM was charged with the responsibility of cleaning up 107 contaminated sites in 35 states, approximately 3,100 square miles.**

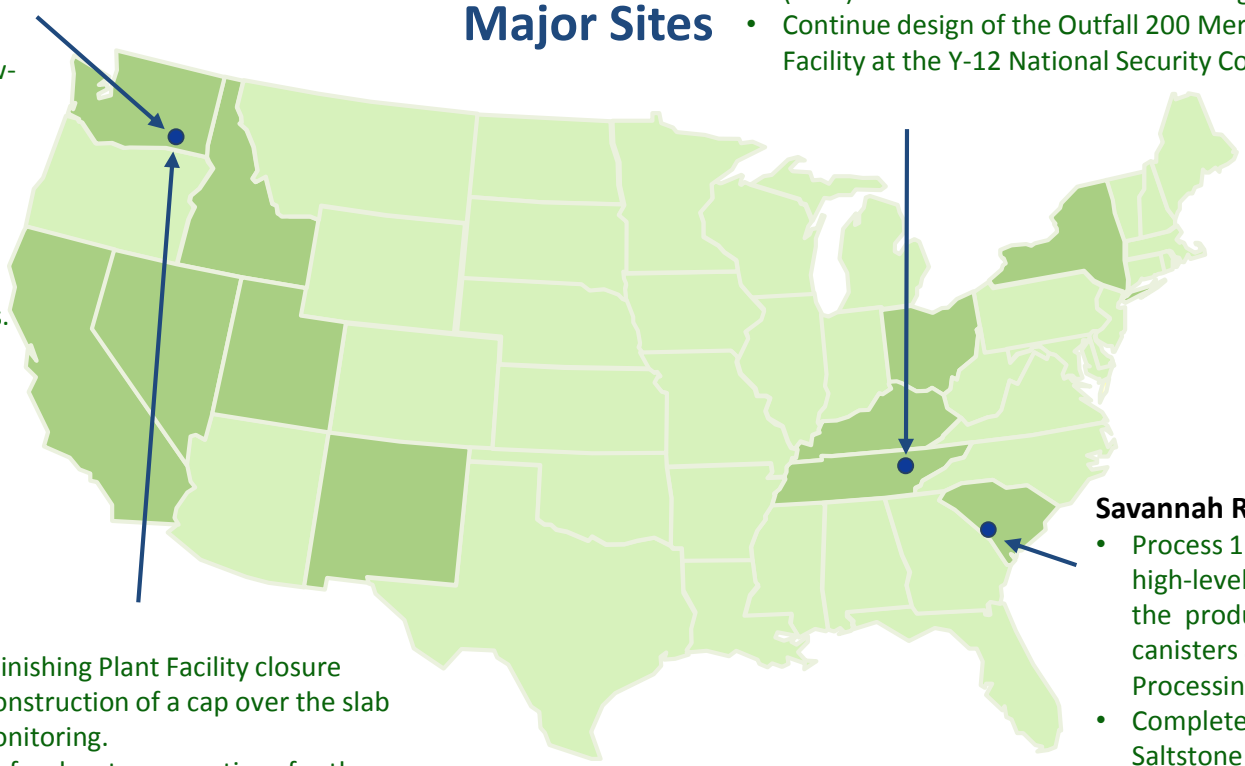
Making Cleanup Progress



- EM has reduced its footprint by 90% to less than 300 square miles
- 16 sites in 11 states with remaining cleanup activities

FY 2017 Making Cleanup Progress

Major Sites



River Protection ($1,500M)

- Complete retrieval of AY-102 Double-Shell Tank.
- Continue retrieval of single Shell Tanks.
- Continue construction of Low-Activity Waste, Balance of Facilities, and analytical laboratory to support the startup for the Direct Feed Low Activity Waste by 2022.
- Continue implementation of tank vapor corrective actions.

Oak Ridge ($391M)

- Complete demolition of the last Gaseous Diffusion Plant (K-27) at the East Tennessee Technology Park.
- Continue design of the Outfall 200 Mercury Treatment Facility at the Y-12 National Security Complex.

Richland ($800M)

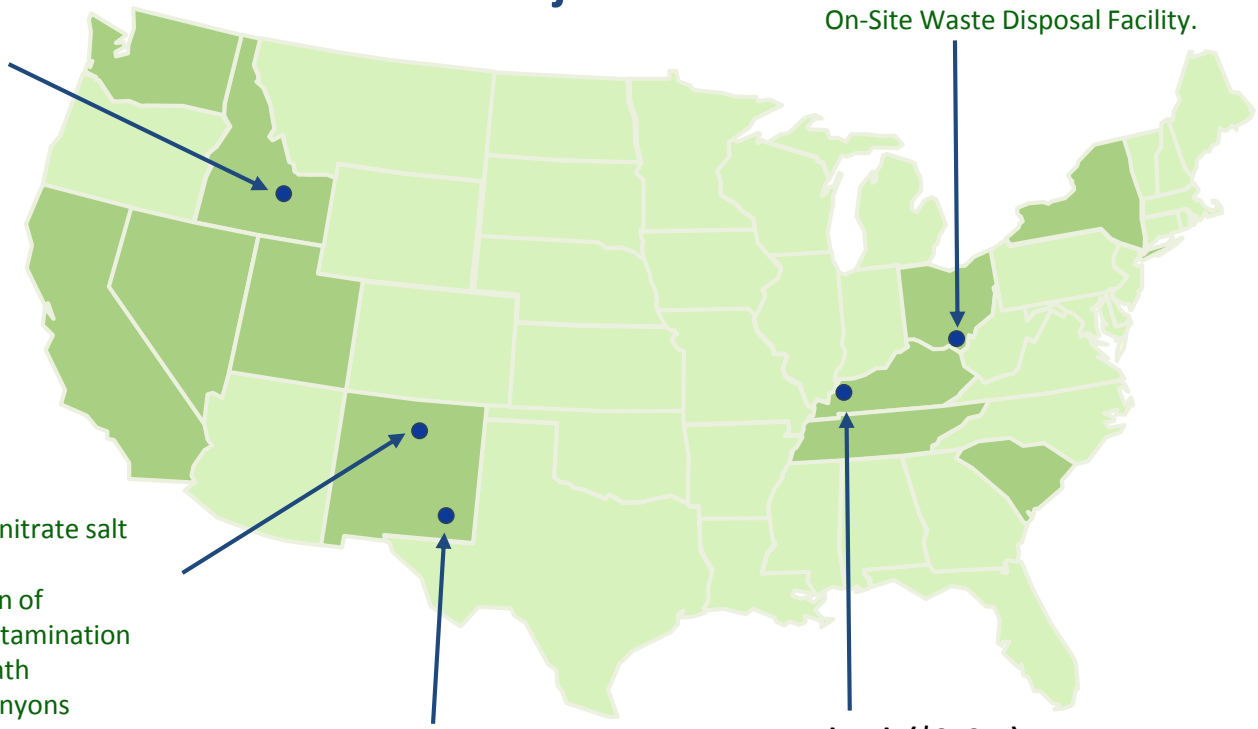
- Complete Plutonium Finishing Plant Facility closure activities, to include construction of a cap over the slab and environmental monitoring.
- Begin project planning for dry storage options for the cesium and strontium capsules.
- Continue remediation of the 618-10 Vertical Pipe Units; and procurements to initiate remediation of waste in 300 Area beneath Building 324.

Savannah River ($1,448M)

- Process 1.7 million gallons of high-level tank waste resulting the production of 100 - 110 canisters at Defense Waste Processing Facility.
- Complete construction of Saltstone Disposal Unit 6.
- Support planned construction, commissioning, and start-up activities for Salt Waste Processing Facility.
- Support receipt, storage, and processing of research reactor spent nuclear fuel.

FY 2017 Making Cleanup Progress

Major Sites



Idaho ($370M)
- Continue treatment of liquid sodium bearing waste at the Integrated Waste Treatment Unit.
- Complete exhumation of targeted buried waste at the Accelerated Retrieval Project VIII facility.

Portsmouth ($323M)
- Complete deactivation of a process building (X-326) in preparation for demolition.
- Complete Phase I Infrastructure activities for the On-Site Waste Disposal Facility.

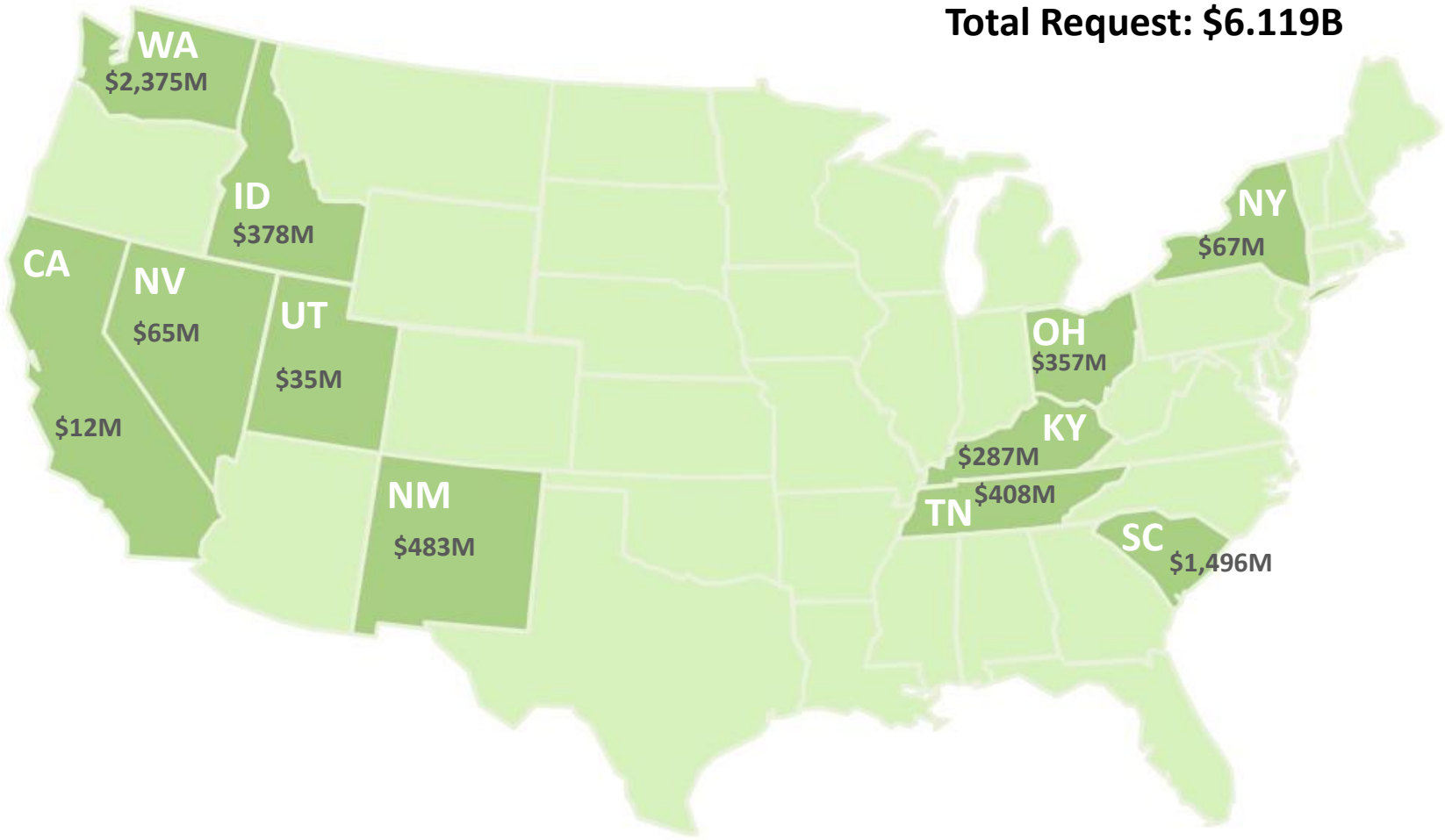
Los Alamos ($189M)
- Address the treatment of nitrate salt bearing wastes.
- Complete the investigation of hexavalent chromium contamination of the groundwater beneath Mortandad and Sandia Canyons including field and bench-scale testing and plume control interim measures.

Carlsbad ($271M)
- Initiate waste emplacement operations.
- Permanent ventilation system.
- National TRU Program.

Paducah ($272M)
- Continue the demolition phase of the inactive site facilities and the deactivation of the Gaseous Diffusion Plant, which consists of more than 500 facilities.

Making Cleanup Progress

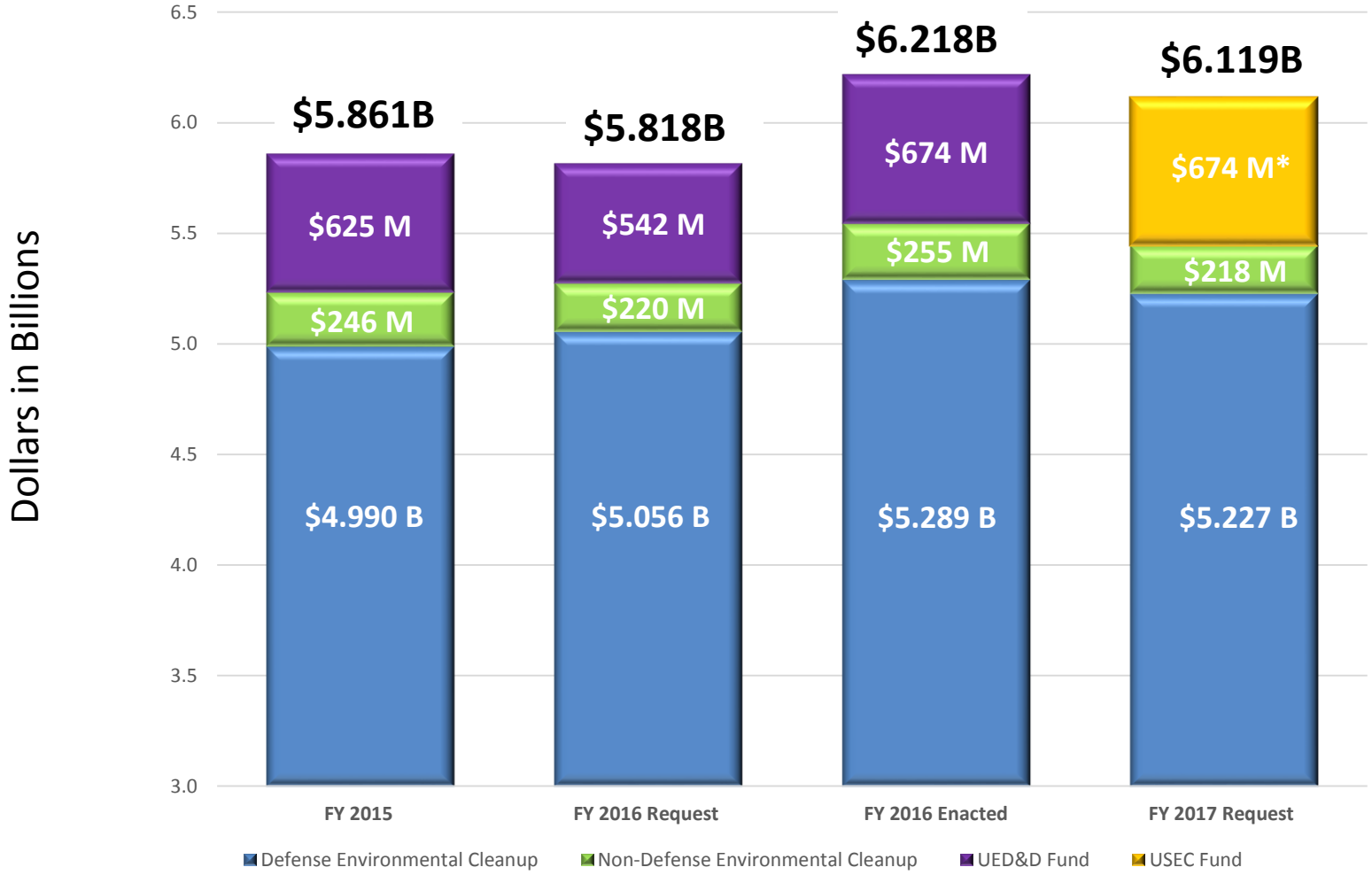
Total Request: $6.119B



*State figures include program support activities funding and excludes $156M for activities executed through Washington, DC and the EM Closure Sites.

EM FY 2017 Budget Request

Funding by Appropriation



*DOE is proposing to spend $674 M in mandatory balances from the USEC Fund for UED&D cleanup activities.

Funding by EM Mission Area

Radioactive Tank Waste
$ 2,410M / 40%

Facility D&D
$ 887M/ 14%

Site Services**
$ 732M / 12%

EM's FY 2017 Budget Request - $6.119 Billion Total

Special Nuclear Materials & Used Nuclear Fuel*
$ 873M / 14%

Transuranic & Solid Waste
$ 773M / 13%

Soil & Groundwater
$ 445M / 7%

* Includes Safeguards and Security

** Includes Program Direction, Program Support, Mission Innovation and Technology, Post Closure Administration, Community and Regulatory Support, and $104M of GPP and Maintenance & Repair Activities.

Radioactive Tank Waste: Making Progress in FY 2017

$2,410M
(includes $207M for Maintenance & Repair activities)

Construction activities for the Low Activity Waste Facility, Analytical Laboratory, and Balance of Facilities to support the startup for the Direct Feed Low Activity Waste by 2022 at the Waste Treatment and Immobilization Plant at the Hanford Site in Washington State.

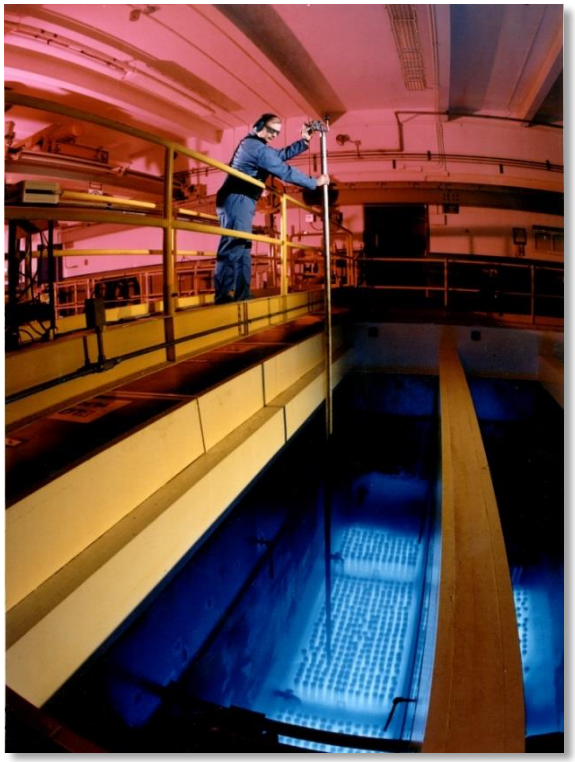
Complete construction, ramp up startup testing and commissioning of the Salt Waste Processing Facility in South Carolina.

Process 1.7 million gallons of high-level tank waste resulting the production of 100 - 110 canisters at Defense Waste Processing Facility. at the Savannah River Site in South Carolina.

Special Nuclear Materials & Used Nuclear Fuel

$873M

(includes $50M for Maintenance & Repair activities)



Support activities for downblending six metric tons of non-pit plutonium and processing of spent nuclear fuel at Savannah River Site in South Carolina.

Begin project planning for dry storage options for the cesium and strontium capsules at the Hanford Site in Washington State.

Facility Deactivation and Decommissioning in FY 2017

$887M

(includes $115M for Maintenance & Repair activities)

At Richland, complete Plutonium Finishing Plant Facility to achieve slab-on-grade by end of calendar year 2016.

Continue deactivation of process building (X-326) in preparation for demolition at the Portsmouth Site in Ohio.

Complete demolition of the last gaseous diffusion building (K-27) at East Tennessee Technology Park in Oak Ridge, Tennessee.

Transuranic (TRU) Waste & Solid Waste

$773M

(includes $29M for Maintenance & Repair activities)

Continue processing, characterizing and packaging transuranic waste at the Advanced Mixed Waste Treatment Project in Idaho.

Continue Waste Processing activities in Oak Ridge, Tennessee.

Initiate waste emplacement operations at the Waste Isolation Pilot Plant in Carlsbad, New Mexico.

Soil and Groundwater: Using New and Existing Systems to Address Risk in FY 2017

$445M

(includes $5M for Maintenance & Repair activities)

Mercury capture at Outfall 200 at Oak Ridge, Tennessee.

Workers use a Spider Excavator to remove soil at town site area (TA-32) in Los Alamos.

Groundwater Pump-and-Treat at Hanford, Washington

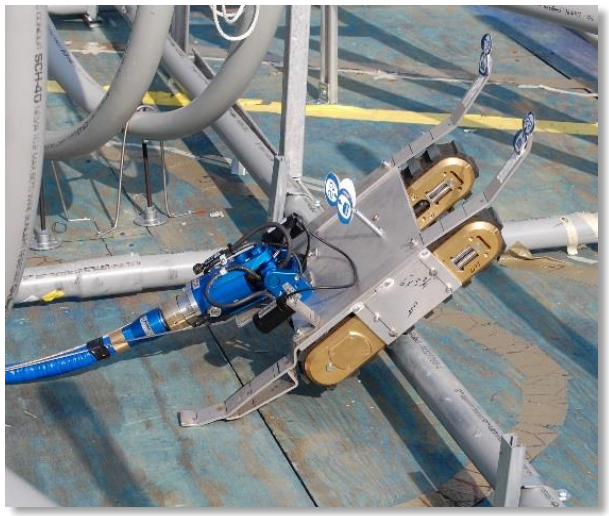
Technology Development (TD)

TD Investment $33M

Cleanup Enabling Technologies/Solutions:

- Integrate robotic solutions technologies for handling of high-hazard materials and waste, easing the performance of physically demanding tasks on the human body, or performing tasks beyond human abilities.
- Establish radioactive test bed capability for demonstrating innovative tooling, treatment technologies, and other technical solutions at existing EM nuclear facilities and assets.
- This request includes technology development activities focused on two operational challenges at our sites. For example, we are investigating in-situ characterization and treatment technologies for mercury contamination in soils at Oak Ridge. We are also pursuing novel technologies for sequestration, treatment and disposition of technetium that is pervasive in our tank waste.

One of the current BROKK robotic arms is seen sorting contaminated materials in an Advanced Mixed Waste Treatment Project boxline at Idaho.



Tizzy, a robotic crawler for cleaning waste tanks at Savannah River.

Conclusion





EM's FY 2017 budget supports substantial and tangible progress in the cleanup of the environmental legacy of the Cold War.

While supporting major facility demolition projects, and addressing key infrastructure needs across the complex, the budget will also allow EM to:

- Initiate waste emplacement at the Waste Isolation Pilot Plant.
- Continue liquid high-level waste processing at the Defense Waste Processing Facility, and complete construction and ramp-up commissioning of Salt Waste Processing Facility at Savannah River Site.
- Support Department efforts to implement Direct Feed Low Activity Waste (LAW) facility at the Waste Treatment and Immobilization Plant at Hanford.
- Continue progress in protecting the Columbia River and in cleaning up the Central Plateau.